YOUR NATIONAL WEATHER SERVICE SPOKANE QUARTERLY REPORT Vol XXVII Issue 4

The Weather Watcher

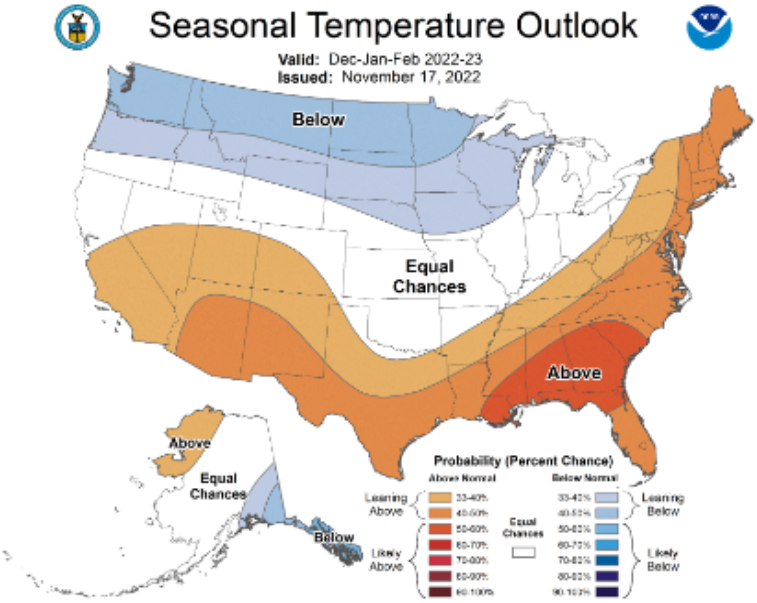
Of the Inland Northwest

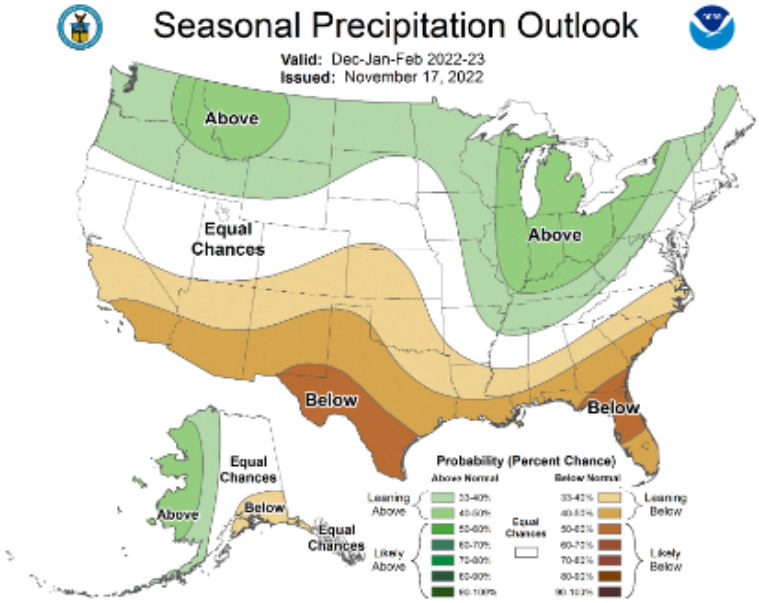
www.weather.gov/Spokane

December 2022

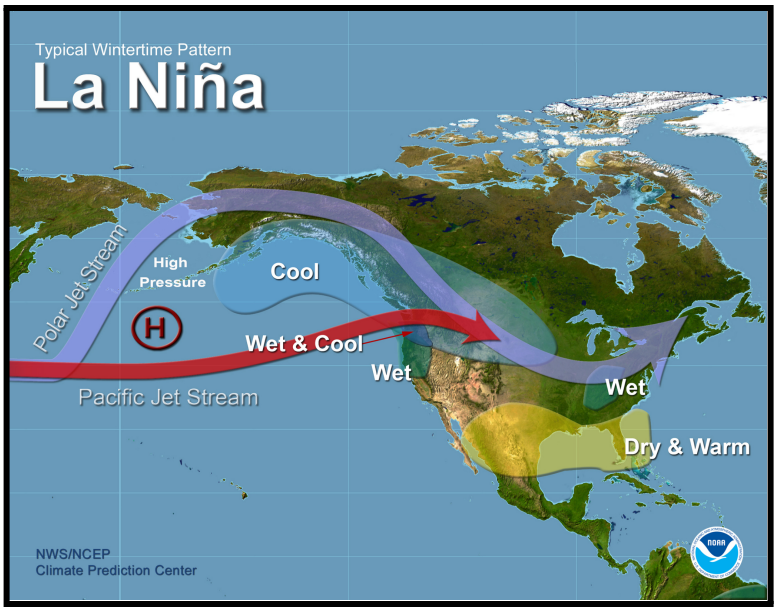
Winter Outlook 2022-23

The NWS Climate Prediction Center updated the seasonal outlook for December, January and February across the country. It is still trending for below normal temperatures and above normal precipitation for the Inland Northwest and much of the northern tier states. This forecast is based on a La Nina pattern that is expected to persist through the winter season across the northern hemisphere. This would be the third La Nina in a row, otherwise known as a "triple dip." This is a rare event and has only occurred two other times in the last 70 years. They were the years of 1973-1976 and 1998-2001.



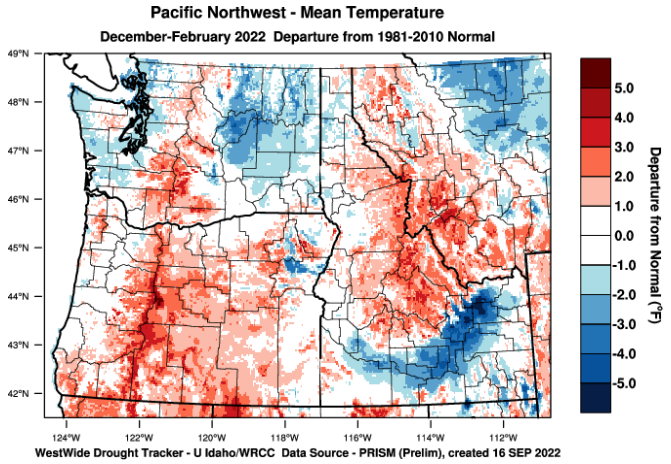


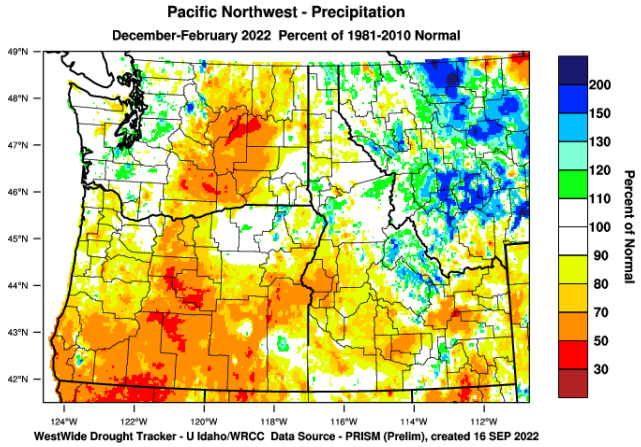
La Nina is an oceanic atmospheric pattern that develops from cold sea surface temperatures in the eastern equatorial Pacific Ocean. This affects the weather pattern and enhances a strong but variable jet stream that impacts the Pacific Northwest. It can bring periods of wet weather from the northwest or dry and breezy weather. Temperatures tend to cool below normal especially by the later half of the winter season. Yet not every La Nina season is the same. Let's compare the last two winters.



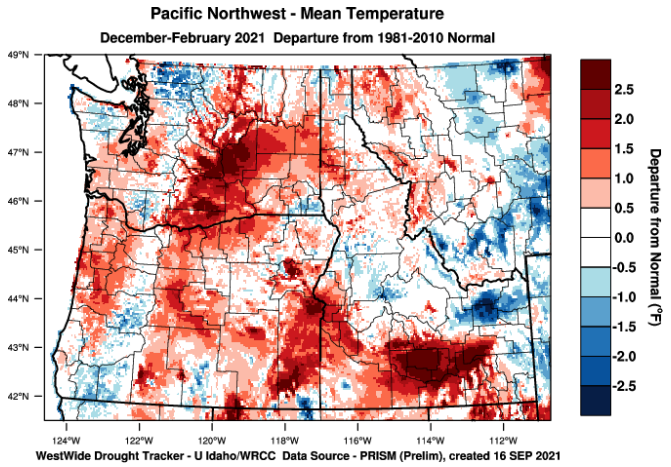
Trivia Question: What is climatologically the wettest time of the year for the Inland NW?

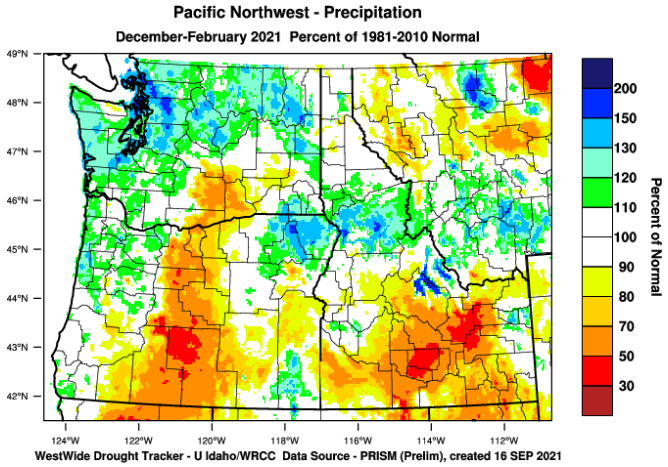
Winter 2021-2022 - Cool and Dry. For the Inland NW, temperatures trended cooler than normal across much of the region especially in the lower elevations. Some of the mountain peaks in the Cascades and Idaho Panhandle trended above normal. Taking a look at precipitation, it was a dry period for much of the Inland NW through February 2022. The precipitation didn't really amount to much until the Spring of 2022.





Winter 2020-2021 - Mild and Wet. Temperatures trended above normal for much of the Inland NW especially at the lower elevations with some areas running more than 2 degrees above normal for the season. As for precipitation, it was wetter than normal, especially across the Cascades into northeast Washington for the winter season. It wasn't until the Spring of 2021 that the precipitation shut off and the region entered a drought.



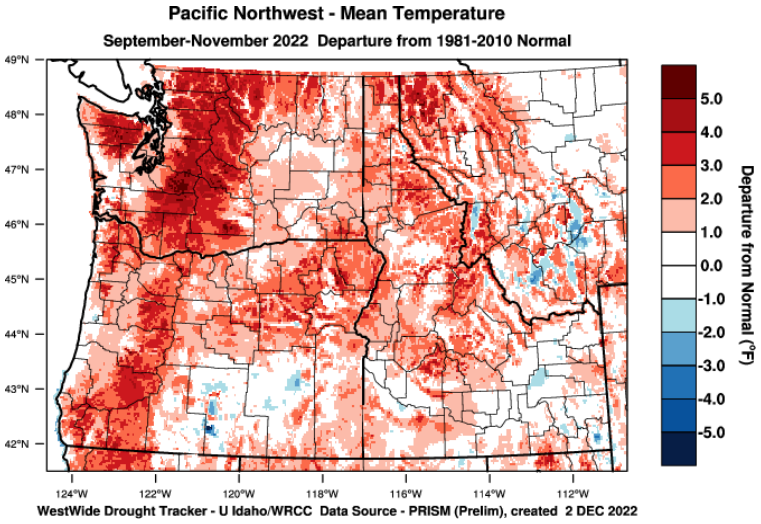


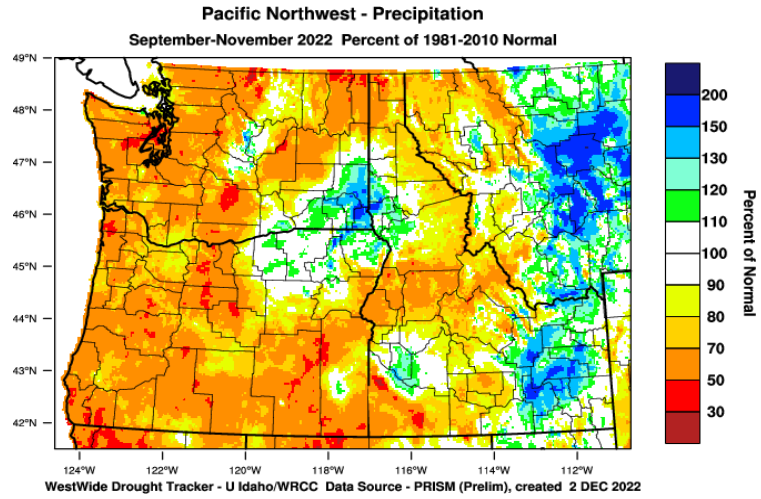
Since we have seen two starkly different winter seasons in the last two years with a La Nina, it begs to question what to expect for this winter season. We are off to a good start for November 2022 where most areas have already experienced their first significant snowfall and round of cold temperatures. Will it continue? The long range temperature and precipitation trends are still tipping toward cool and wet for the next several weeks through the holiday season. Hopefully this trend will continue through the start of the new year. ☀️

Answer: It depends on location. For central WA and northeast WA, including Wenatchee and Spokane - it is December. For southeast WA and the southern ID panhandle, including Lewiston - it is May!

Fall 2022 in Review

The fall of 2022 was a season of extremes. September and October were mild and dry. Temperatures were much above normal across the Inland NW for September with near record warm temperatures in October especially across north central Washington in the northern portion of the Idaho Panhandle. Precipitation was below normal for many areas aside from southeast Washington and the adjacent areas of the Panhandle on the Palouse where heavy rains fell in late September. By November, the tables turned with cold, wet and snowy weather for much of the month. Overall, the Fall 2022 season averaged out with above normal temperatures region wide for September through November, while dry conditions were more common except for the Palouse region and even the Wenatchee area.





September finished warmer than normal across the region. As for precipitation, most areas in central Washington, northeast Washington, and much of the Idaho Panhandle were drier than normal while the Palouse was wetter than normal. The month started out hot with high temperatures in the 90s to the triple digits. Lewiston reached 102 degrees on the 2nd. The heat came to an end on the 3rd with isolated thunderstorms over the region. Meanwhile fires in northeast Washington and much of north Idaho continue to burn actively during the first half of the month. Breezy winds produced blowing dust across parts of Highway 2 in central Washington on the 8th that led to several collisions near Hartline. From the 9th through the 14th, smoke increased over the region as east winds brought smoke from several wildfires across the Inland NW. This led to degraded air quality for many locations to unhealthy levels, especially in the Wenatchee and Methow Valleys. Thunderstorms developed on the 13th over central Washington and turned severe with quarter size hail near Okanogan and dime size hail near Malaga. Heavy rains near Highway 2 near Mazama lead to a debris flow. Thunderstorms pushed into eastern Washington and north Idaho on the 14th and brought some relief from the smoke. The remainder of the month, high temperatures were mainly seasonal in the upper 60s to lower 80s. The exception was a brief and rapid warmup on the 26th and 27th where some locations soared into the mid 80s to 90s again. On the 27th, Spokane reached 90 degrees which broke the daily record and the latest date of 90 degrees. This warmth came to an abrupt end on the 29th with steady rain across much of extreme eastern Washington into the Idaho Panhandle. Rainfall amounts ranged from 0.50” in Lewiston, 0.80” at Moyie Springs, and 1.04” at Coeur d’Alene. Rain amounts of 0.46” in Spokane and 1.25” in Pullman broke the daily rain records. Temperatures cooled off drastically to close out the month.

October was another mild and dry month. It was very warm, with above normal temperatures across much of north central Washington, northeast Washington and most of the Idaho Panhandle. The first half of the month was unusually warm with high temperatures in the mid 70s to lower 80s and this continued until the 20th. Then a cold front ushered in cooler air into the region as temperatures dropped below normal in the 40s to 50s to close out the month. It was very dry especially for central Washginton with much below normal values from Wenatchee to Winthrop where no rain was reported. The Spokane airport only reported a trace of rain in the month. Wet weather was found across the Palouse and LC Valley on the 21st to the 22nd with rounds of showers with total rainfall amounts of 0.85" in Lewiston and 0.80" in Pullman. More rounds of showers tracked across southeast Washington and the southern Idaho Panhandle on the 24th, 26th and even on Halloween where a quarter to over a half of an inch fell. This led to rises on the Palouse River and Paradise Creek in Moscow, briefly reaching flood stage.

November was a decidedly winter month this year as the seasons switched. The monthly average temperatures region wide were 3 to 8 degrees below normal. The Spokane Airport had its 4th coldest November on record and Wenatchee had its 2nd coldest. The month began with a cold rain event on the 1st. Then colder air brought snow to most areas aside from the LC Valley for the first week of the month. Most locations in the Spokane metro area had 2 to 3 inches of snow with localized 5 inch reports. Strong winds accompanied the storm, with gusts to 54 mph at the Spokane Airport, 51 mph at Lewiston and Wenatchee. Another round of snow fell across the region on the 7th with heavy snow in the Okanogan, Methow and Entiat Valleys with some spots seeing 1 to 2 feet of snow. Northeast Washington and the Idaho Panhandle experienced snow ranging from 3 to 5 inches. Cold dry air moved into the region behind the weather system. Temperatures were 5 to 15 degrees below normal for the next two weeks, with only an occasional flurry to sprinkle. Wetter weather returned for the last week of the month, again in the form of snow for most. The month finished with a strong winter storm that brought heavy snow to the entire Inland Northwest. Snow totals of around a foot were common. Strong gusty winds led to areas of blowing and drifting snow across the Palouse, Camas Prairie and Okanogan Valley, along with bitter cold wind chills. November 2022 was the 6th snowiest on record for Spokane and the 11th snowiest for Lewiston. The Spokane airport had at least 1 inch of snow on the ground for 26 straight days in November, shattering the old mark of 22 days. ☀️

Autumn Weather Stats

Wenatchee Waterplant	SEP	OCT	NOV	Total
Average High temp	82.4	73.9	40.3	65.5
Departure from normal	3.6	10.6	-6.3	7.9
Average low temp	55.3	47.4	28	43.6
Departure from normal	1.0	8.4	-4.3	5.1
Total precipitation	0.04	0.03	2.21	2.28
Departure from normal	-0.20	-0.69	1.06	0.17
Total snowfall	0	0	7.2	7.2
Departure from normal	0	0	5.7	5.7

Lewiston, ID	SEP	OCT	NOV	Total
Average High temp	82.5	68.8	43.9	65.1
Departure from normal	3.0	5.8	-4.8	4.0
Average low temp	55.3	46.4	28.9	43.5
Departure from normal	3.0	4.4	-5.6	1.8
Total precipitation	1.38	1.36	1.98	4.72
Departure from normal	0.78	0.28	0.03	1.09
Total snowfall	0	0	4.2	4.2
Departure from normal	0	0	2.9	2.9

Spokane, WA	SEP	OCT	NOV	Total
Average High temp	78.2	66.1	35.4	59.9
Departure from normal	4.6	8.4	-6.9	2.0
Average low temp	52.8	44	21.5	39.4
Departure from normal	4.2	6	-8.8	0.5
Total precipitation	0.53	0.61	3.03	4.17
Departure from normal	-0.05	-1.37	0.97	-0.45
Total snowfall	0	T	18.5	18.5
Departure from normal	-0.1	-0.5	6.2	5.6

Skywarn 2022

It's been three years, but after a couple virtual events, it finally took place in-person at NWS Spokane on Dec 3-4, 2022. The annual Skywarn Recognition Day!

Skywarn™ Recognition Day was developed in 1999 by the National Weather Service and the American Radio Relay League. It celebrates the contributions that Skywarn™ volunteers make to the NWS mission, the protection of life and property.

Amateur radio operators (HAMs) comprise a large percentage of the Skywarn™ volunteers across the country. The Amateur radio operators also provide vital communication between the NWS and emergency management if normal communications become inoperative.

All Skywarn™ spotters provide critical weather information before, during and after adverse weather strikes. This includes reports of rain and snow, ice and wind, storms and tornadoes, flooding and fire. This is our 24 hours to recognize all of the Skywarn™ spotters serving our nation!

For Spokane, it wasn't the greatest conditions outside to set up the antennas, being 20 degrees during the afternoon with 7 inches of snow on the ground, but our local HAMs had it all set up and ready to go in time. They enjoyed the warmth in the office as well!

During this exercise, each NWS office of HAMs reached out to as many NWS offices as possible to collect weather data. Aside from local and regional offices, they were able to contact NWS Brownsville and NWS San Angelo in Texas where it was balmy at 65 degrees! This exercise helped to test communications which are vital in times of natural disasters. ☀️

Are you ready for Winter Travel?

With the recent cold and snow that arrived in November, most are ready for winter. Make sure your vehicle is ready as well, especially as you head into the mountains and over the passes. Packing an emergency kit in your vehicle is important. Also check ahead on road conditions with the DOT before you hit the road to limit the times you get delayed by ice and snow. ☀

NWS OTX

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Laurie Nisbet
Miranda Coté
Steven Van Horn
Joey Clevenger
Valerie Thaler
Dan Butler
Rachael Fewkes

Electronic Systems Analyst
Mike Henry

Electronic Tech
Derek Haupt

Facilities Tech
Joshua Miller

Staff News

Paul Kozan, NWS Spokane Electronic Technician, retired in November 2022 after 40 years of federal service. An amazing accomplishment. We wish Paul and his family the best, especially since he doesn't have to travel for endless hours to fix weather equipment and has more time for his hobbies! ☀

Did you know?

NWS Spokane helped with hurricane forecasting with Hurricane Ian in September 2022. This was done by launching extra weather balloons, every 6 hours for several days in late September by the Pacific NW office. The reason was to add extra data into the weather models to help determine the track of Ian.

NWS Spokane also switched to a smaller radiosonde device this spring. This device is tied to the weather balloon and collects the weather data which is transmitted to a computer in the office. Upper air observations with weather balloons are done twice each day, at 3 am and 3 pm - whether it's raining, snowing, cold or windy. A typical flight takes about 1.5 hours with the balloon and radiosonde traveling 15 to 25 miles high! ☀

2022 Fire Season Wrap-Up

It was a slow start to the 2022 fire season courtesy of a cool, wet spring which extended well into early July. This delayed curing and drying of regional fuels with portions of our forests never reaching critical dryness levels throughout the entire fire season. These conditions did promote a bumper grass crop that was a major concern as the hot and dry weather arrived late July into August.

Land management agencies reported **405 lightning started fires** this season however, although this was almost double compared to 2021, the wet spring and delayed curing of our fuels was evident and most of these lightning starts experienced minimal fire spread. Preliminary acreage in Eastern Washington and North Idaho was around **106,000 acres**; which is now inferred as a slow season when compared to the last ten fire seasons. ☀

Remember your Winter Spotter Checklist
Snow: 2"+ valleys & 4"+ mountains
Strong Winds: 30mph+ or damage
Reduced Visibility: under a mile due to fog, snow...
Hail: pea size or larger
Heavy Rain: Showery: 1/2" + in 1hr Steady: 1"+ in 12hr/1.5"+ in 24hr
Any **Mixed Precipitation**
Any Flooding
Travel Problems or Damage: due to severe/hazardous weather

Winter Training

NWS Spokane hosted a series of virtual live training on winter weather and measuring snow. Many weather spotters and CoCoRaHS observers joined in for a refresher and were eager to learn more. If you missed a session and want to review, there are videos available and notes from each class on our Spotter Resources Page. Accurate snow measurements take hard, dedicated work. More online training on snow is found on the CoCoRaHS web page. Here are some useful notes and tips to share throughout the winter season! ☀

Ways to send Weather Spotter reports:

Call
509-244-0435
Or
Submit a Report Online

Interested in Precipitation reports:

Visit CoCoRaHS.org

Weather spotters and observers! We know it has been a busy start to the weather season. We appreciate the hard work and dedication it takes to send in your reports - some on a daily basis. Check out your Storm Reports online! Thank you for sharing pictures and photos! This one is courtesy of **Bob at Stehekin** on Dec 7, 2022.

Keep up the terrific work!

Wishing you health & happiness right into the New Year!

From all of us at NWS Spokane